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EXAMINER	
MEW, KEVIN D	
ART UNIT	PAPER NUMBER
2664	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/847,347	JAE PARK	
	Examiner	Art Unit	
	Kevin Mew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final Action

Response to Amendment

1. Applicant's arguments filed on 10/12/2004 regarding claims 1, 7-9, 11-12, 18-19, 25 have been considered and are currently pending in the application.

2. Acknowledgement is made of the amended claims regarding the claim objection to claims 1 and 25. The corrections are acceptable and the claim objection has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1, 7-9, 11-12, 18-19, 21-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuyasu et al. (US Patent 6,445,683) in view of Seta (US Publication 2002/0054611), and in further view of Habbe et al. (US Patent 5,655,071).

Regarding claims 1, 11-12, 18, 21-25, Nobuyasu discloses a communication system (**a communication system**, see lines 37-39, col. 2 and Figure 2) to perform the method of incorporating a base transceiver station (see element 11, Figure 2), a base station controller (see element 13, Figure 2) monitors the base transceiver station, and a BTS interface (**an apparatus for monitoring asynchronous transfer mode cells**, see element 21, Figure 2) in the base station

controller for monitoring ATM cells (see arrows coming into BTS interface of the base station controller, and lines 26-31, col. 6) by comprising:

an ATM terminating LSI (**receive interface part established in the base station controller**, see arrow coming in from BTS to T1 terminating LSI, to ATM terminating LSI, and element 21b, Figure 3) for temporarily store ATM cell in a FIFO memory (**recording a cell to be monitored**, see lines 19-21, col. 7), and for extracting an ATM cell from the payload of the T1 frame and checks the extracted ATM cell for an Header Error Control (**counting the number of error occurrence by checking header errors of the cells**, see lines 35-36, col. 6) error and filters the received cell according to a VPI/VCI value (**checking latched VPI/VCI of asynchronous transfer mode cells received from the base transceiver station by the base station controller**, see lines 36-37, col. 6; note that VPI/VCI are matched identifiers)..

Nobuyasu does not explicitly show a transmission interface part established in the base station controller for transferring a test cell for checking the transmission time between the base transceiver station and the base station controller to the base transceiver station.

However, Seta discloses a CDMA system (**a communication system**) for synchronizing the time of a plurality of base stations and the time of a base station controller that controls each of these base stations (see lines 3-6, section "0017", page 2) where the base station interface (BTS interface, see element 14, Figure 1) in a base station controller (**a transmission interface part established in the base station controller**, see element 1, Figure 1) performs a signal format conversion from the original communication signals into ATM cells (**transferring a test cell produced**, see lines 11-13, section "0030", page 3 and lines 5-10, section "0056", page 5). Furthermore, Seta discloses a time controller (see element 15, Figure 1) for detecting the

transmission time delay between the base station controller (see element 1, Figure 1) and the base stations periodically (**checking a cell transmission time between the base transceiver station and the base station controller to the base transceiver station**, see lines 10-12, section "0035", page 3, lines 5-9, page 3 and elements 2, 3, Figure 1).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the communication system of Nobuyasu such that the communication system would comprise a transmission interface part to measure the transmission time delay between base station controller and base transceiver station such as the interface and the time controller of the base station controller taught by Seta. Having incorporated the base station controller (see element 1, Figure 3) of Seta, comprising an interface (see element 14, Figure 3) and a time controller (see element 15, Figure 3), into the transmission interface of Nobuyasu (see element 21, Figure 7) would modify the transmission BTS interface of Nobuyasu. The motivation to do so is to detect the transmission delay time between the base station controller and the base transceiver stations periodically and to create the time correction information using transmission delay time because it would allow synchronizing all base stations to absolute time accurately after the occurrence of a failure in a base station.

Nobuyasu does not explicitly show the header counter for counting the number of occurrences. However, Habbe discloses that the header checksum of the ATM cells is calculated and the result is compared to the HEC field in the cell head and a counter for the number of faulty ATM cells is incremented when an error is detected (see lines 52-57, col. 17 and element mep 54.1, Fig. 1).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the communication system of Nobuyasu with the error counter in the data processing system for ATM cells of Habbe (see Fig. 1) such that the number of error occurrences will be counted by checking the header errors of the cells in the receiving interface part such as the error counter for counting errors in the cell head taught by Habbe. The motivation to do so is to record and diagnose the number of error occurrences and detect whether too many cells have been lost per time unit because identifying faults will generate alarms for the communication system to automatically reset the corresponding faulty units.

Regarding claims 7, 19, Nobuyasu, Seta and Habbe disclose all the aspects of the claimed invention as set forth in the rejection of claims 1, 12 above. Nobuyasu and Habbe do not explicitly show a GPS receiver to perform the method of receiving a time information packet from GPS and provides it to the receive and transmission parts; and a controller producing a test cell including a time information provided by the GPS receiver or checking a cell transmission delay time by comparing transceiving time of a cell loop-backed from the base transceiver station.

However, Seta discloses a base station controller that includes:

a GPS receiver (see element 11, Figure 1) for generating a reference time and a clock signal (the time information packet) based upon a GPS signal received from GPS satellites (**a GPS receiver receiving a time information packet from GPS, the GPS receiver providing the receive and transmission parts with the time information packet**, see lines 1-3, section "0031", page 3);

an interface (see element 14, Figure 1) for synchronizing a timing signal with the reference time output by the GPS receiver (a time information provided by the GPS receiver, see lines 1-6, section "0034", page 3);

a base station controller (see lines 5-6, section "0034", page 3) for sending signals to the base stations, including the reference time information (**a controller producing a test cell including a time information provided by the GPS receiver**, see lines 7-9, section "0034", page 3); and

a time controller for detecting the transmission delay time between the base station controller and the base stations periodically (**checking a cell transmission delay time by comparing transceiving time of a cell loop-backed from the base transceiver station**, see lines 11-13, section "0034", page 3).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the communication system of Nobuyasu such that the communication system would comprise a GPS receiver for receiving GPS reference time information a time controller to measure the transmission time delay between base station controller and base transceiver station such as the interface and the time controller of the base station controller taught by Seta. Having incorporated the base station controller (see element 1, Figure 3) of Seta, comprising a GPS receiver, an interface (see element 14, Figure 3) and a time controller (see element 15, Figure 3), into the transmission BTS interface of Nobuyasu (see element 21, Figure 7) would modify the transmission BTS interface of Nobuyasu. The motivation to do so is to provide a GPS receiver for receiving a reference time information for synchronizing base stations, and a controller for detecting the transmission delay time between

the base station controller and the base transceiver stations periodically and for creating the time correction information using transmission delay time because it would allow synchronizing all base stations to absolute time accurately after the occurrence of a failure in a base station.

Regarding claim 8, Nobuyasu, Seta and Habbe disclose all the aspects of the claimed invention as set forth in the rejection of claim 1 above. Nobuyasu and Habbe do not explicitly show timing information is provided in the receive and transmission parts when a test cell is transceived to and from the base station controller and the base transceiver station. However, Seta discloses that the base station controller measures the transmission delay time between the base station controller and the base stations based on the timing at which signals are transmitted to the base stations and the timing at which the corresponding signals are received from the base stations (see lines 5-9, section "0037", page 3). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the receive and transmission parts of the base station controller in the communication system of Nobuyasu such that the base station controller would measure the transmission time delay between base station controller and base transceiver station such as the interface (see element 14, Figure 1) and the time controller of the base station controller (see element 1, Figure 1) taught by Seta. Having incorporated the base station controller (see element 1, Figure 3) of Seta, comprising an interface (see element 14, Figure 3) and a time controller (see element 15, Figure 3), into the BTS interface of Nobuyasu (see element 21, Figure 7) would modify the transmission BTS interface of Nobuyasu. The motivation to do so is to detect the transmission delay time between the base station controller and the base transceiver stations periodically and to create the time correction

information using transmission delay time because it would allow synchronizing all base stations to absolute time accurately after the occurrence of a failure in a base station.

Regarding claim 9, Nobuyasu discloses a Channel Identifier (CID) latch for latching CID value (see line 2, and lines 8-9, col. 8 and element 45, Figure 6). A CID field value is essentially a VPI/VCI value (**VPI/VCI is latched with hardware**, see lines 29-31, col. 11, and lines 49-53, col. 12).

Regarding claim 11, Nobuyasu, Seta and Habbe disclose all the aspects of the claimed invention as set forth in the rejection of claim 1 above. Nobuyasu and Habbe do not explicitly show multiplexing/demultiplexing ATM cells in the transmission and receiving parts of the base station controller. However, Seta discloses a multiplexer in the base station controller (see element 142, Figure 3) and a demultiplexer in the base station (see element 224, Figure 2). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the communication system of Nobuyasu such that the transmission and receiving parts of the base transceiver stations and base station controller would comprise a multiplexer/demultiplexer such as multiplexer and demuliplexer taught by Seta. Having incorporated a multiplexer/demultiplexer in the base station controller or the base transceiver stations would modify the transmission and receiving parts of the base station controller of Nobuyasu. The motivation to do so is to provide a multiplexing/demultiplexing function for combining the reference time information and the time correction information onto, and extracting the reference time information and the time correction information from the original

signals because the examining the reference timing information would allow synchronizing all base stations to absolute time accurately after the occurrence of a failure in a base station.

4. **Claims 10, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuyasu in view of Seta and Habbe, and in further view of Lee et al. (US Publication2001/0006516).

Regarding claim 10, Nobuyasu, Seta, and Habbe disclose all the aspects of the claimed invention set forth in the rejection of claim 1 above. Nobuyasu also discloses a T1 interface between the base transceiver station and the base station controller (see element 21a, Figure 3). Nobuyasu does not explicitly show an E1 interface between the base transceiver station and the base station controller. However, Lee discloses an E1/T1 interface between base transceiver stations (see element 10, Figure 1) and base station controller (see element 200, Figure 1). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the communication system of Nobuyasu such that the interface between base transceiver stations and base station controller is an E1 interface such as the E1 interface taught by Lee. Having replaced the North America T1 interface standard with the European interface standard between base transceiver stations and base station controller would modify the interface standard of Nobuyasu. The motivation to do so is to support the European interface standard between base transceiver stations and base station controller because a different information transmission rate set forth by the E1 interface standard is required to support the corresponding European implementation of the system.

Response to Arguments

5. Applicant's arguments filed on 10/12/2004 have been fully considered but they are not persuasive.

In response to the Applicant's argument that neither Nobuyasu, Seta, nor Hebbe teaches monitoring an error of the transceiving ATM cell and a delay time of the cell transmission from the base station controller to the base transceiver station, and counting and recording the number of error occurrences in the cell header, the Examiner respectfully disagrees.

It was clearly stated in the previous Office Action that Habbe discloses that the header checksum of the ATM cells is calculated and the result is compared to the HEC field in the cell head and a counter for the number of faulty ATM cells is incremented when an error is detected (see lines 52-57, col. 17 and element mep 54.1, Fig. 1, and please refer to pages 4 and 5 of the previous Office Action). Furthermore, Seta discloses a CDMA system (**a communication system**) for synchronizing the time of a plurality of base stations and the time of a base station controller that controls each of these base stations (see lines 3-6, section "0017", page 2) where the base station interface (BTS interface, see element 14, Figure 1) in a base station controller (**a transmission interface part established in the base station controller**, see element 1, Figure 1) performs a signal format conversion from the original communication signals into ATM cells (**transferring a test cell produced**, see lines 11-13, section "0030", page 3 and lines 5-10, section "0056", page 5). Furthermore, Seta discloses a time controller (see element 15, Figure 1) for detecting the transmission time delay between the base station controller (see element 1, Figure 1) and the base stations periodically (**checking a cell transmission time between the base transceiver station and the base station controller to the base transceiver station**, see

lines 10-12, section "0035", page 3, lines 5-9, page 3 and elements 2, 3, Figure 1, and please refer to pages 3 and 4 of the previous Office Action). Therefore, claims 1, 7-9, 11-12, 18-19, 21-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuyasu et al. in view of Seta and in further view of Habbe et al.

Allowable Subject Matter

6. Claims 2-6, 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the prior art of record fails to teach the subject matter of claim 2 including:

a second storage part outputting a data corresponding to the latched VPI/VCI of the cell;

a third storage part outputting a VPI index value of an address designated by the data outputted from the second storage part; and

a fourth storage part storing the number of error occurrence of the cell at the other address designated by the VPI index value.

In claim 13, the method of claim 12, further comprising:

outputting a virtual path identifier index value of an address designated by said outputted data; and

storing the number of error occurrences of the cell at the address designated by virtual path identifier index value.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.